detecting said electric field at said passive electrode sites, generating a set of electric field measurement data;

extracting in the frequency domain, from said field measurement data, that component of said field measurement data corresponding to chamber geometry and generating chamber geometry data;

extracting in the frequency domain, from said field measurement data, that component of said field measurement data corresponding to the underlying intrinsic electrophysiologic activity of the heart chamber, and generating electrophysiology data;

graphically displaying said chamber geometry data; and

graphically displaying said electrophysiologic data.

2.(amended) A process for measuring electrophysiologic data in a heart chamber comprising the steps of:

positioning a set of passive electrodes within patient's heart;

positioning a set of active electrodes within a patient's heart;

supplying oscillating current to said set of active electrodes thereby generating an electric field in said heart chamber; <u>said oscillating current oscillating at a rate above the heart rate and not synchronized with said heart rate;</u>

detecting said electric field at said passive electrode sites, generating a set of field measurement data <u>at multiple times during a heart beat</u>;

extracting in the time domain, from said field measurement data, that component of said field measurement data corresponding to the underlying electrophysiologic activity of the heart chamber, and generating electrophysiology data;

graphically displaying said chamber geometry data; and

graphically displaying said electrophysiologic data.

3.(amended) A process for determining and displaying the location of a therapy catheter in a heart chamber comprising the steps of:

positioning a set of passive electrodes within said heart chamber;

positioning a set of active locator electrodes within said heart chamber, said locator electrodes being positioned on a therapy catheter;

supplying oscillating current to said set of active locator electrodes thereby generating an electric field in said heart chamber; said oscillating current oscillating at a rate above the heart rate and not synchronized with said heart rate;

detecting said electric field at said passive electrode sites, and generating field measurement data at multiple times during a heart beat;

extracting in the frequency domain, from said field measurement data, that component of said field measurement data corresponding to locator electrode location and generating location data; and

graphically displaying said location data.

ARGUMENTS

Applicant has filed an RCE and amended the claims to overcome the rejection based upon Budd '611 and Ben Haim.

The Examiner has finally rejected claims 2 and 3 under §103 as obvious over the combination of Budd '611 and Ben Haim.

Comments re the References

Ben Haim makes a "map" of the interior of the heart. The device works by placing an electrode in contact with a heart surface and measuring its position in the XY and Z space. Each position measurement is synchronized with the heart beat so that each measurement is made at the same cardiac phase. This restricts Ben Haim to making one measurement for each instant in the heart cycle. For example Ben Haim may make measurements at the R wave peak and sweep the catheter around to collect multiple data points corresponding to this R wave peak.. But in this example only one measurement is made at the peak of the R-wave. When many data points are collected over many heart beats, Ben Haim assembles them into a map. The electrophysiologic data is collected simultaneously with and in synchrony with the position data collection. In short, Ben Haim keeps track of where he is within the cardiac cycle and makes all of his measurements at the same "time" in the heart cycles.

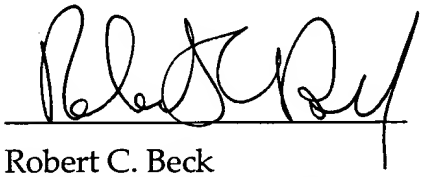
The applicants claims are now limited to the collection of multiple position data points all through the cardiac cycle and the displaying the EP data on a representation of the heart.

Budd '611 is directed to a novel volume measurement process where a sequence of measurements from a hub-and-spokes algorithm to measure heart volume. There is no teaching of displaying electrophysiologic data on a surface created from the hub and spokes technique. Since there is no teaching of non synchronized data collection in Ben Haim the reference cannot be combined with the other applied art to render the claimed combination "obvious" under section 103. For this reason the amended claims do not read on an obvious combination of Budd '611 and Ben Haim.

Kindly reconsider the double patenting rejection in light of the amendments.

Date: 7/27/04

Respectfully submitted,
ENDOCARDIAL SOLUTIONS, INC.
By its attorneys:



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